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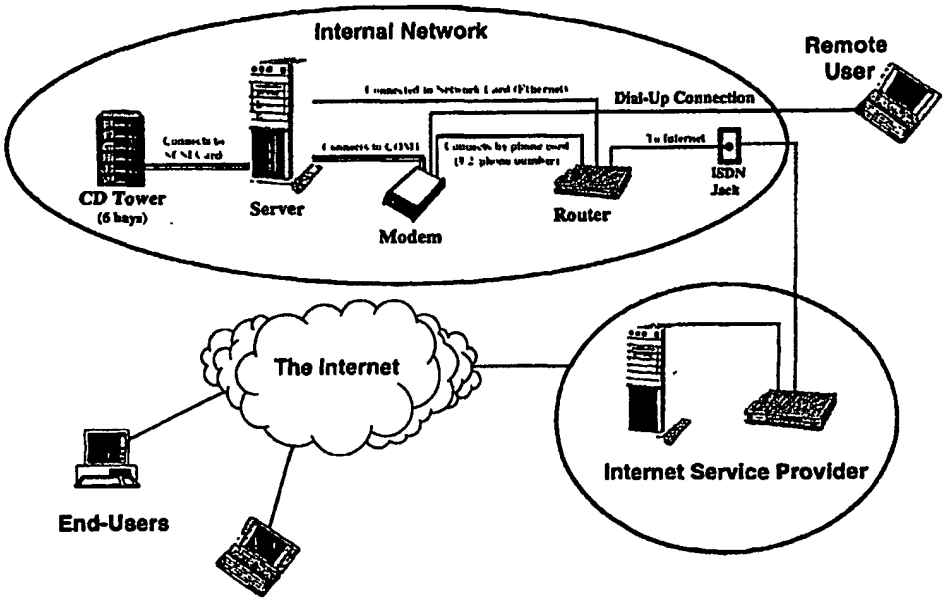

(57) Abstract

An enhanced Web server provides the ability to transmit and store digital photography from a remote computer using FTP. The system also has a mass storage device attached, such as a CD-ROM tower, which stores digital photography. An end user interface allows a user to view and download the stored digital photography and to display the photography on a Web browser on Web pages. A point-and-click user interface allows an end user to easily and quickly access the photography over the Internet.

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METHOD AND APPARATUS TO DISTRIBUTE PHOTOGRAPHY OVER THE INTERNET

This application claims the priority of co-pending U.S. Provisional Patent Application Serial No. 60/125,040.

This invention relates generally to distributing photography in a timely manner, to multiple people, in multiple locations; and more particularly to a Web server that receives and stores digital photography from remote computers over the Internet and that provides access to stored digital photography over the Internet in a friendly User Interface.

BACKGROUND OF THE INVENTION

In the prior art, the distribution of photographs entailed either the direct delivery or mailing of photographs in either print, negative or electronic/digital formats (on CD-ROM's). The photographs were sent to individual contacts.

Problems involved with the prior art methods of distributing photography included:

1. The length of time from when a photograph was taken to the time it was received by the contact.

2. The photographs were often not shared with other resources at each contact location.

3. Contacts then needed to redistribute the photographs to internal and external sources.

4. Problems with end-user's knowledge of, or their computer equipment for using, CD-ROM's, for example.

Brief Summary of Invention

The present invention provides an Internet-based solution for distributing digital photography. A Web server stores images that are directly transmitted to its hard drive from a remote computer using FTP, or can access images from an attached mass storage multi-bay CD-ROM Tower. A User Interface has been developed through a Web browser and Web pages that allow the end user to access the Web server over the Internet from any location at any time. Photographs stored on the server or the CD-ROM Tower are displayed on the Web pages, which provides a friendly User Interface (UI) and view/download of the images. The web server addresses the problems experienced in the prior art by providing the following:

1. Images can be transmitted to the server directly from photography events. This allows users to connect to the Internet and access and download the photographs for immediate use.
2. The system supports multiple users from any location. This eliminates the need to redistribute photography to external (e.g., media) or internal personnel within a photography client's organization, for example.
    a. This system enables large corporate photography clients with multiple office locations domestically and internationally to access and utilize photography from any location.
    b. International and domestic media are able to access the photography immediately for publication and news reporting.
3. Using the Internet as the mean of storing and distributing the photography eliminates any lack of technical knowledge or special computer hardware/software setup (e.g., a CD-ROM, graphics software) by the end user.
4. Users can easily navigate through a graphical point and click interface using a Web browser. They can view and choose photographs from a collection of over 800 images stored on the server.

It is an object of the present inv ntion to provide

A storage device:

1. To electronically transmit digital photography to the storage device from anywhere in the world.

2. To hold CD-ROM's that contained digital photographic images.

A User Interface:

1. To provide access to the digital photographs (both transmitted and CD-ROM photographs).

2. To support multiple computer Operating System (OS) platforms (i.e. Macintosh, PC).

3. To support multiple simultaneous users accessing the digital photography from anywhere in the world.

4. To be easy to use and easy to navigate and find the digital photography they needed.

5. Easy to retrieve (or download) the digital photographs.

One embodiment of the present invention is a method for distributing photography over the Internet, comprising, providing a Web server having means to receive and store digital photography transmitted from a remote user's computer; connecting to the Web server a mass storage device having means to store digital photography; and interfacing the Web server, the mass storage device, and an end user with a point-and-click end user interface means that displays and downloads digital photography stored on the Web server and mass storage device with a Web browser on Web pages.

Another embodiment of the present inventions is an apparatus to distribute photography over the Internet, comprising, a Web server having means to receive and store digital photography transmitted from a remote user computer; a mass storage device connected to the Web server having means to store digital photography; and means to provide a point-and-click end user interface that displays and downloads digital photography stored on the Web server and the mass storage device with a Web browser on Web pages.

Brief Description of Drawings:

FIGURE 1: Diagram of the internal architecture and connectivity of the server system.

FIGURE 2: Diagram of the external architecture and connectivity. This also display how the server is connected to the Internet.

FIGURE 3: A screen shot of the Domain Name Service (DNS) Manager. This is to display the actual setting and configuration of DNS.

FIGURE 4: A screen shot of the Remote Access Service (RAS) Configuration window. This window displays how the RAS server is configured to hand remote user dialing in directly to the server through the modem.

FIGURE 5: This screen shot displays how the CD-ROM's are added to the WWW Service of the Internet Information Server's (IIS) to allow a Web page to access the CD-ROM.

FIGURE 6: This screen shot display how the CD-ROM drives are added to the FTP Service of IIS to allow an FTP navigation of the contents through a Web browser.

FIGURE 7: This is a screen shot of the Photo Gallery page in a Web browser. It displays the "CD-Rom's" and the "From the Track" sections.

FIGURE 8: A screen shot of the Web page (cde.asp) that loads all of the thumbnail images from the E:\ CD-Rom drive.

FIGURE 9: A screen shot of the high resolution .jpg image that is loaded from the CD-ROM drive when the user clicks on a thumbnail image (refer to Figure 8 for which thumbnail was clicked).

FIGURE 10: A dowload window appears on the screen when a user chooses the "Download Image" link. The "Dowload Image" link is associated with the thumbnail image that is display above the link.

FIGURE 11: A screen shot of the FTP session that is loaded into the Web browser when the user chooses a Race Name in the "From the Track" section of the Photo Gallery. The client folders are displayed which are used to organize all of the images that are transmitted to the s rver.

FIGURE 12: A screen shot of FTP session opening and displaying the contents of a Race Name folder. The image file names are displayed for the user to view in the Web browser and to download.

FIGURE 13: A screen shot of one of the .jpg images (listed in a race folder shown in Figure 12) loaded into a Web browser.

Detailed Description of the Preferred Embodiment

Dan Boyd is a photographer for the Fed Ex CART Racing Series. Mr. Boyd's client base is composed of teams, corporations and individuals involved in the racing series. His job is to photograph CART racing events and to provide the photographs to his client for internal and media use. The following example is based upon Mr. Boyd's photography needs.

In order to better understand the preferred embodiment to date of the present invention, the first thing to address is the physical system itself. The system consists of a Web server, a CD-ROM tower, a 56K modem, a router and a Universal Power Supply (UPS) back up.

The Web Server:

Hardware:

Internal:

- Server Tower Case
- Dual Motherboard
- Pentium II 266 Processor
- 4.3 Gb SCSI Hard Drive
- 128 Mb Memory
- (2) SCSI Controller card
- (2) 24x CD-CD-ROM's
- Floppy Drive
- Network Card
- Sound Card
- Video Card

External:

- 15" monitor
- Keyboard
- Mouse
- 56K Modem
- Cisco 776 Router
- UPS SmartUPS 620

Software:

MS Backoffice Small Business Server (with Service Pack 3)
- NT Server 4.0
- Internet Information Server 3.0
- Proxy Server
- SQL Server
- Exchange Server
- Index Server

MS Site Server Express
Internet Explorer 4.01
Cisco Fast Step

The CD-ROM Tower:

(6) 24x CD-ROM's

Connectivity:

There are several hardware/software configuration combinations available for implementing a server with a dedicated connection to the Internet. Due to the various options for establishing a Web server on the Internet, the combination that was chosen for the preferred embodiment to date was based on financing available and previous successful experience with the technology. Elaborate detail on the exact steps performed is not set forth in detail due to the vast amount of options available in establishing a Web server. It is more vital to address the process and results that this Web server performs. Included are some specifications of the Web server configuration in order to provide a complete understanding of the way this system operates and produces the end result.

Internal Connectivity (Figure: 1):

1. The Web server has two internal SCSI controller cards.
   a. One controller card handles the hard drive and two of the CD-ROM's.
   b. The second controller card handles the other 6 CD-ROM's that are connected through a SCSI cable to the CD-ROM tower case.
2. Connected to the COM1 port of the server is the 56K external modem.
3. The network interfac card (NIC) in th server connects to the router through an Ethernet cable.

4. The NT-1 port on the router is connected to the ISDN jack which is then handled by the TELCO carrier.
5. The modem is connected to a phone line jack on the router.

External Connectivity (Figure: 2):

The Web server has a dedicated ISDN connection to the Internet through a local Internet Service Provider (ISP). The Domain Name danrphotos.com (208.150.70.210) was registered with InterNIC as an Internet domain and then was recorded in the Domain Name Server (DNS) of the ISP. This allows requests from the Internet to be routed to the ISP and then sent to the server in order to provide users access to the Web site. (Note: When a Remote Connection is made with the server, the phone number dialed is the phone number of the second (2nd) ISDN Data Channel.)

Dialing into the Server:

A dial in connection is used to send images to the hard drive of the server. The necessities for establishing a remote connection to the server are a computer with a modem and an analog or data phone line. The phone number of the ISDN line is dialed, which is answered by the router and then sent to the modem that is attached to the phone jack on the router. The modem then takes over and handles the communication between the remote computer and the server using Remote Access Services (RAS). The user is required to authenticate with the server using a valid username and password. FTP software is used to transfer files from the remote computer to the server.

Server Configuration:

In addition to the basic OS installation, the following additional services must be enabled in the 'Network Properties' Dialog Box:

DHCP Relay Agent
DNS Server
Remote Access Service
RIP for Internet Protocol
Services for Macintosh

TCP/IP Configuration:

The TCP/IP protocol is enabled and configured with a static IP address (given by the Internet Service Provider (ISP) and registered with InterNIC). The default Gateway is the IP address of the Cisco Router that is connected to the server. Three DNS Servers listed (the servers DNS IP and two from the ISP's).

***DNS Server Configuration* (Figure: 3):**

A primary zone "danrphotos.com.dns" was added with the following record types added:

Name	Type	Data
danrphotos.com	NS	danr.DRPI
danrphotos.com	NS	ns1.oaktee.NET (the ISP's Name Server)
danrphotos.com	SOA	danr.DRPI.Administrator.DRPI.
danrphotos	A	208.150.70.210

***RAS (Remote Access Server)*(Figure: 4):**

The 56K modem is assigned to RAS to allow a direct Dial-In connection with the server. This allows photos to be directly transmitted to the server using FTP software on a client computer. RAS is configured as follows:

Network Configuration:

Dial Out Protocol: TCP/IP

Server Settings

TCP/IP(Configuration:

Access this computer only

Use static address pool

Allow remote client to request predetermined IP)

Internet Information Server Configuration (Figure: 5):

WWW Service

The driv letters for each CD-ROM and the folder "c:\inetpub\ftproot\pub" were added as virtual directories to the WWW s rvice. (e.g.,

http://www.danrphotos.com/e was the alias path to the E:\ CD-ROM drive.) This was to enable sharing from NTFS security and for IIS to be able to access the information on the CD-ROM's. All of the Web pages were saved under the WWWroot directory (c:\inetpub\wwwroot).

***FTP Service* (Figure: 6):**

Under the FTP service, a virtual directory was added for each CD-ROM drive letter and the "pub" folder, the same way as was done under the WWW service (e.g., FTP://ftp.danrphotos.com/e was the virtual directory path for the E:\ [CD-ROM] drive). Folders were created under the FTP directory for each race name to allow the images transmitted to the server to be categorized and organized. This also provides the end user accessing the FTP site the ability to easily navigate and find the photographs they are looking for (e.g., C:\inetpub\ftproot\pub\[race name]). Under each race name folder another folder was created for each end user group accessing the service. The purpose of this folder was to expand on the ease of user navigation through the FTP site.

The User Interface:

The User Interface (UI) is a series of Web pages that allow the user to navigate to the stored photography through a Web browser. The series of Web pages combine to form a Web site in which the photographs on the CD's and the hard drive (transmitted photographs) are available for the user to view and download. Security has been implemented by means of a user login page which requires the user to enter their username and the password. (Note: for simplicity, there is only one password that will allow users to enter the photography section.) The password is given to users who are authorized to access and use the photographs. Apart from the photography pages (Photo Gallery) any user can access the Web site from the Internet by typing in the URL (http://www.danrphotos.com).

For the purpose of this disclosure, only a detailed description of the photo gallery section which provides the solution to distributing photography needs to be provided.

The Photo Gallery:

The main page of the Photo Gallery is divided into two (2) navigation sections: "CD-ROM's" and "From the Track". Behind the scenes, there are some pages that were developed to automate the Photo Gallery and make it easy to maintain. The following is a list of the behind the scene's pages and how they pertain to the Web site.

races.txt: A text file that contains the names of all of the races (e.g., "Homestead," "Detroit," "Portland"). These race names are pulled from the photogall.asp page when it loads and then written to the page in HTML format. They are displayed on the photogall.asp page in the "From the Track" section. This allows the race names to be updated in one location (usually done once a year at the beginning of a new CART race season).

racenames.inc: This is a text document that contains Visual Basic programming code and executes a process which determines the two (2) current race names to display in the "CD's" section of the Photo Gallery. The 2 race names are chosen according to the current date (see Appendix A.2).

photosE.txt: A text document that contains a list of the image names on the CD in the E:\ (drive) (e.g., 24hmst01, 24hmst02, 24hmst03 . . .).

photosF.txt: A text document that contains a list of the image names on the CD in the F:\ (drive) (e.g., 25seb39, 25hst02, 25hst03 . . .).

photosG.txt: A text document that contains a list of the image names on the CD in the G:\ (drive) (e.g., 24 hmstd 7, 24hmstd0, 24hmstd1 . . .).

photosH.txt: A text document that contains a list of the image names on the CD in the H:\ (drive) (e.g., 18hmst01, 18hmst02, 18hmst03 . . .).

photosI.txt: A text document that contains a list of the image names on the CD in the I:\ (drive) (e.g., 17hmst76, 17hmst02, 17hmst03 . . .).

photosJ.txt: A text document that contains a list of the image names on the CD in the J:\ (drive) (e.g., 44hmst10, 04hmst02, 04hmst03 . . .).

photosK.txt: A text document that contains a list of the image names on the CD in the K:\ (drive) (e.g., 27hou17, 01hou02, 01hou03 . . .).

photosL.txt: A text document that contains a list of the image names on the CD in the L:\ (drive) (e.g., 98hou74, 98hou02, 98hou03 . . .).

Creating the CD text documents:

The importance of creating a text document for each CD is to enable the Web page to read the image names from the text file and to write those image names to the page. In order for the image to be available on the Web site, the image names in the text file *MUST* correspond exactly to the images found on the CD. This step needs to be performed when the CD's in the CD-ROM tower change (in this situation it happens when new CD's are added after each race). The text documents (cde.txt, cdf.txt, etc.) are updated each time a CD is added or removed.

Previously, the files containing the names of the images would have to be written in a text document manually (typing or copying each file name). A wizard was written in Visual Basic that retrieves all of the file names on the CD's and writes the image names to the appropriate text file (e.g., all of the image names on the E:\ would be saved to the file cde.txt). The wizard automates this process and makes it easy to change, add or remove CD images from the Web site.

Contents of the CD-ROM's

The first photography section of the Web server includes a mass storage device (in this case a CD-ROM tower) that stores all of the images. This system presently has 8 CD-ROM bays available to store CD's. The CD's contain 75 - 100 images in digital file formats. There are three (3) different versions of each image stored on a CD in the following file types:

Tiff (.tif, .tiff) - 8 Mb size file. This image provides a high resolution, high file size version of the image for use in billboard quality and high resolution publication.

JPG (.jpg, .jpeg) - 100 Mb to 250 Mb file size. This image provides a high resolution, medium file size version of each image that is used for magazine, newspaper and standard publication type uses.

Thumbnail JPG (.jpg, .jpeg) - 3 Mb to 10 Mb file size. This image is a small resolution, small file size that is used to display a thumbnail (small version) of each image. This image is what is displayed for browsing and navigation through the photographs. It can also b used for Web site, low quality publication.

Viewing th Phot Gall ry in a W b browser (Figure: 7):

The main Photo Gallery page is named photogall.asp. When this page is opened into the Web browser, it executes server-side programming (VB Script) that performs a couple of tasks (see Appendix A.11).

1. It retrieves the username and password and verifies that a user name has been entered along with the correct password "server99."
2. The raceNames.txt file is opened to retrieve the appropriate race names to display in the "CD's" section.
3. The races.txt file is opened and all of the race names are written to a table in the "From the Track" section of the page.

After executing the scripts in the photogall.asp page, the server writes the results in the page as text and sends the page to the user's browser. The race names that are displayed on the page are links that take the user to another Web page to view the images. In the "CD-ROM's" section the thumbnail (.jpg's) are displayed on the page. In the "From the Track" section a File Transfer Protocol (FTP) site is opened in the browser where the image file names can be viewed.

The "CD-Rom's" Section (Figures: 8, 9, 10):

An active server page with sever-side programming script was developed for each CD (relative to the CD-ROM drive the files are named cdE.asp, cdF.asp, cdG.asp, etc.) (see Appendix A.12). When the user selects a CD, the appropriate link to an .asp page opens the text file and read/writes the image names into the Web page in several places:

(Note: When a user chooses the name of the CD-ROM E, the ASP page named cdE.asp is opened. The cdE.asp reads the image names from the text file name photosE.txt.)

1. In an <a href ="[CD-ROM drive]/files_a/[image name]"> which creates a link to the high resolution .jpg version of the image.
2. In an <img src ="[CD-ROM drive/files_b/[image name]"> which displays the thumbnail version of the image on the Web page for viewing.
3. In another <a href ="[CD-ROM drive]/[image name]"> along with the word "Download Image" which crates a link that executes a download of the Tiff version of the image.

4. And finally the imag name retrieved is written in text to the page so the image name can be associated with the thumbnail and "Download Image".

The user can scroll through the page and view all of the thumbnail version of the images on the Web page. Clicking on a thumbnail image will open the larger .jpg version of the image in the Web browser. Clicking the "Download Image" link under each photograph will open a download session of the 8 Mb .Tiff version of the image. The user can choose a location on their computer to save the image and the browser will download that image to their computer.

The "From the Track" Section (Figures 11, 12, 13):

When the user clicks on a race name in the "From the Track" section of the Photo Gallery page, an FTP session is opened in the Web browser. The user is taken to the directory of the race name in the FTP root of the Web server. (e.g., If the user clicks on the race name "Homestead" they are taken to the FTP directory Homestead - C:\inetpub\ftproot\pub\Homestead). The user then selects a client directory that was established to organize and categorize the images. Clicking on a client folder will open that folder and display the images that are transmitted remotely to the server from each race. By creating a link to the FTP directories from the Web pages, the images transmitted from a race are immediately available to the end user. The image is opened in the Web browser for the user to view. The "From the Track" section will soon include transmitting a thumbnail version of each image. This will eliminate the FTP directory navigation and will enable the incorporation of the technology used in the "CD's" section to display a thumbnail version of all of images in a Web page.

Appendix

A. 2 Racenames.inc

```
<% Dim raceNow

IF date > CDate("6/3/98") AND date < CDate("6/12/98") THEN
        raceNow= "Detroit"
        End IF
IF date > CDate("6/17/98") AND date < CDate("6/23/98") THEN
        raceNow= "Portland"
        End IF
IF date > CDate("7/8/98") AND date < CDate("7/13/98") THEN
        raceNow= "Cleveland"
        End IF
IF date > CDate("7/15/98") AND date < CDate("7/20/98") THEN
        raceNow= "Toronto"
        End If
IF date > CDate("7/22/98") AND date < CDate("7/27/98") THEN
        raceNow= "Michigan"
        End IF
IF date > CDate("8/5/98") AND date < CDate("8/10/98") THEN
raceNow= "MidOhio"
        End IF
IF date > CDate("8/12/98") AND date < CDate("8/17/98") THEN
        raceNow= "Elkhart"
        End IF
IF date > CDate("9/2/98") AND date < CDate("9/7/98") THEN
        raceNow= "Vancouver"
        End IF
IF date > CDate("9/9/98") AND date < CDate("9/14/98") THEN
        raceNow= "Monterey"
        End IF
IF date > CDate("9/30/98") AND date < CDate("10/5/98") THEN
        raceNow= "Houston"
        End IF
IF date > CDate("10/14/98") AND date < CDate("10/19/98") THEN
        raceNow= "Gold Coast"
        End IF
IF date > CDate("10/28/98") AND date < CDate("11/3/98") THEN
        raceNow= "Fontana"
        End IF

        varraceNow = raceNow
%>

<%      Function date1()
                date1 = date
        End Function
%>
```

Appendix

A. 2 cont.

```
<%    Dim race1
      Dim race2

      IF  date1 > CDate("5/13/98") AND date1 < cDate("6/12/98") THEN
            race1="Milwaukee"
            race2="Madison"
      End IF

      IF  date1 > CDate("6/11/98") AND date1 < cDate("6/23/98") THEN
            race1= "Detroit"
            race2= "Milwaukee"
      End IF

      IF  date1 > CDate("6/23/98") AND date1 < cDate("7/14/98") THEN
            race1= "Portland"
            race2= "Detroit"
      End IF


IF date1 > CDate("7/15/98") AND date1 < cDate("7/21/98") THEN
            race1= "Cleveland"

      race2= "Portland"
      End IF

      IF date1 > CDate("7/21/98") AND date1 < cDate("7/28/98") THEN
            race1= "Toronto"
            race2= "Cleveland"
      End IF

      IF  date1 > CDate("7/28/98") AND date1 < cDate("8/12/98") THEN
            race1= "Michigan"
            race2= "Toronto"
      End If

      IF  date1 > CDate("8/12/98") AND date1 < cDate("8/18/98") THEN
            race1= "MidOhio"
            race2= "Michigan"
      End IF

      IF  date1 > CDate("8/19/98") AND date1 < cDate("9/16/98") THEN
            race1= "Elkhart"
            race2= "MidOhio"
      End IF

      IF  date1 > CDate("9/17/98") AND date1 < cDate("9/19/98") THEN
            race1= "Vancouver"
            race2= "Elkhart"
      End IF

      IF  date1 > CDate("9/20/98") AND date1 < cDate("10/7/98") THEN
            race1= "Monterey"
```

Appendix

A. 2 cont.

```
            race2= "Vancouver"
        End IF

        IF  date1 > CDate("10/7/98") AND date1 < cDate("10/20/98") THEN
            race1= "Houston"
            race2= "Monterey"
        End IF

        IF  date1 > CDate("10/21/98") AND date1 < cDate("2/28/99") THEN
            race1= "Gold Coast"
            race2= "Houston"
        End IF

        'IF  date1 > CDate("12/5/98") AND date1 < cDate("12/26/98") THEN
            'race1= "Fontana"
            'race2= "Gold Coast"
        'End IF
%>
```

A. 11 photogall.asp

```
<%@ LANGUAGE="VBSCRIPT" %>
<%

    request.querystring("txt_username")
    request.querystring("txt_password")
        If request.querystring("txt_password") <> "server99" THEN

            Response.Redirect("prereg2.asp")

        End If

%>
<HTML>
<head>
<link rel="stylesheet" type="text/css" href="linkstyle.css">
</head>
<title>Photo Gallery</title>
<body bgcolor="#000000" text="#FFFFFF" link="#000000" vlink="#000000"
alink="#FFFF00">

<!--#INCLUDE FILE="topnav.asp"-->
<!--#INCLUDE FILE="racenames.inc"-->
```

Appendix

```
<center><table align=center cellspacing=6 cellpadding=10>
        <tr align=center><td align=center colspan=5>
         <font size=5 color="#FFCC00"><b>"CD-Rom's"</b></font><br>
         (CD's of the past two races)<br>
         <br><font size=5><a
href="race1.asp?race1=<%=race1%>"><b><%=race1%></b></a></font><br>
         <font size=5><a
href="race2.asp?race2=<%=race2%>"><b><%=race2%></b></a></font>
        </td></tr></table></center>


<br>
<%
Set FileObject = Server.CreateObject("Scripting.FileSystemObject")
Set Instream = FileObject.OpenTextFile (Server.MapPath ("races.txt"), 1, FALSE, FALSE)
%>
<center>
<table align="center" width="90%">
        <tr><td colspan=5>
         <center><font size="5" color="#FFCC00"><b>"From the Track"</b></font><br>
         (Photos sent from the race)</center><br></td>
        </tr>
        <tr align=center>
<%
        x=5
        i=0
        Do
        race = Instream.ReadLine

        If i = x THEN
          x = x+5  %><tr align=center>
<%
        End If
        If race = "End" Then Exit Do

        %>
        <td aiign=center>
         <a href="ftp://danrphotos.com/pub/<%=race%>">
         <font size=4><b><%Response.Write(race)%></b></font></a>
        </td>
<%
        i = i + 1
        Loop While 1
%>
</tr>
</table>
</center>

<!--#INCLUDE FILE="foot.htm"-->
</BODY>
</HTML>
```

A. 12 cdE.asp *E (Note: for the other CD-ROM's F:\ through L:\ the appropriate drive letter is replaced to create the cdF.asp, cdG.asp, etc.)

Appendix

```
<%@ LANGUAGE="VBSCRIPT" %>

<link rel="stylesheet" type="text/css" href="linkstyle.css">
<BODY bgcolor="#000000" text="#FFFFFF" link="#000000" vlink="#000000"
alink="#FFFF00">

<center><font size="5" color="#FFFFFF"><b>Spring Training</b></font>
<p width="40%%"><font face="Arial Narrow" size="2" color="#FFCC00">Click on an image to
view a larger size. <br></p>
</font>
</center>
<%
Set FileObject = Server.CreateObject("Scripting.FileSystemObject")
Set Instream = FileObject.OpenTextFile (Server.MapPath ("photosE.txt"), 1, FALSE, FALSE)
%>
<table name="imagetable" align="center" cellpadding=4 cellspacing=7>
        <tr ><td colspan=5 align=center><font size=4>PIONEER</font></td>
        </tr>
        <tr align=center>
<%      x=4
        Dim i
         i= 0
        Dim imageno
         imageno = i
        Do
        image = Instream.ReadLine

        If i = x THEN
          x = x+4  %></tr><tr>
<%
        End if

        If image = "End" Then Exit Do

        %>
        <td align=center>
        <a href = "/E/Files_a/<%=image%>.jpg"><img src =
"/E/files_b/<%=image%>.jpg"></a><br>
          <font size=2><b><%Response.Write(image)%></b></font><br>
          <a href = "/E/<%=image%>">Download Image</a>
        </td>

<%      i = i + 1
        Loop While 1
%>
</tr>
</table>
</html>
```

What is claimed is:

1. A method for distributing photography over the Internet, comprising,

providing a Web server having means to receive and store digital photography transmitted from a remote user's computer;

connecting to the Web server a mass storage device having means to store digital photography; and

interfacing the Web server, the mass storage device, and an end user with a point-and-click end user interface means that displays and downloads digital photography stored on the Web server and mass storage device with a Web browser on Web pages.

2. An apparatus to distribute photography over the Internet, comprising,

a Web server having means to receive and store digital photography transmitted from a remote user computer;

a mass storage device connected to the Web server having means to store digital photography; and

means to provide a point-and-click end user interface that displays and downloads digital photography stored on the Web server and the mass storage device with a Web browser on Web pages.

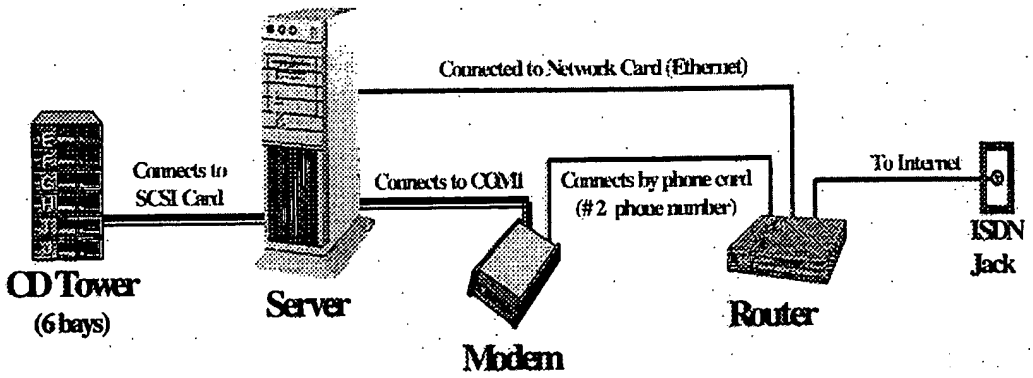

FIGURE: 1

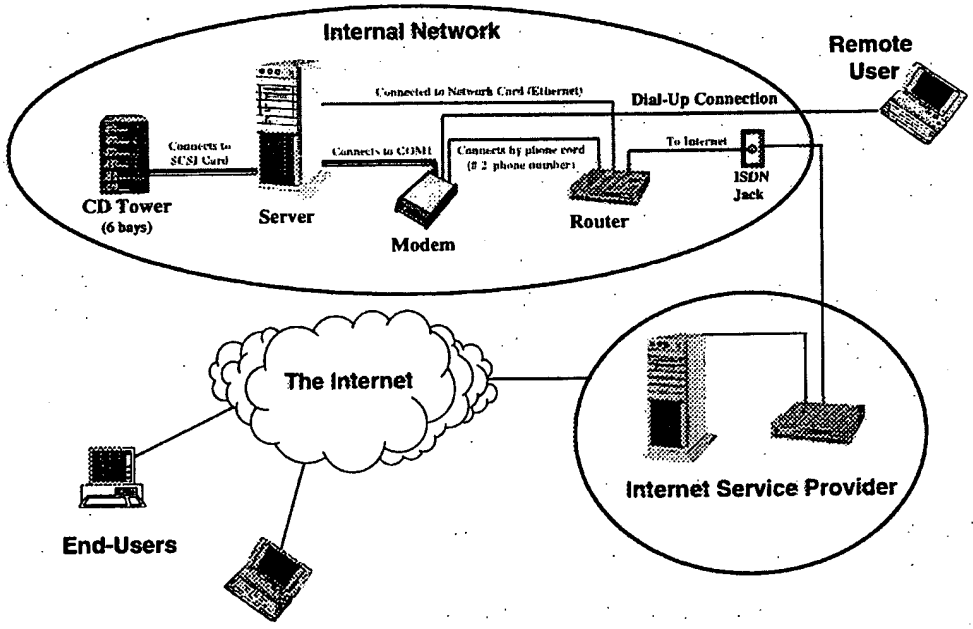

FIGURE: 2

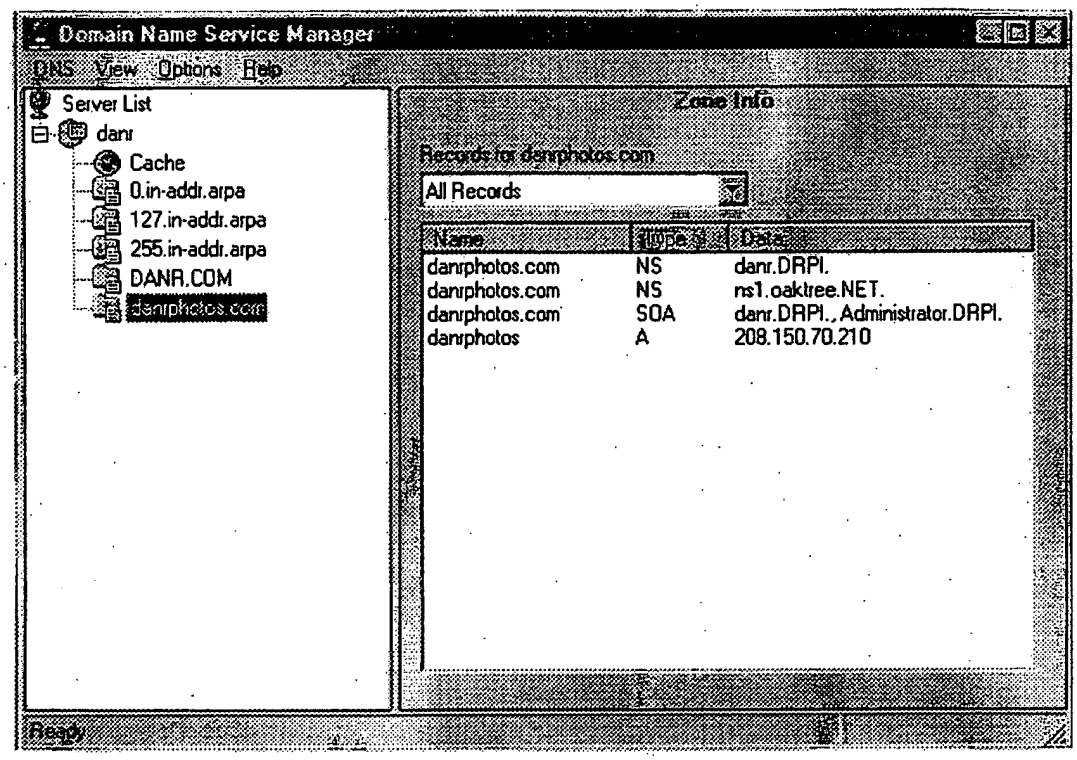
Domain Name Service Manager
DNS View Options Help
Server List
danr
Cache
0.in-addr.arpa
127.in-addr.arpa
255.in-addr.arpa
DANR.COM
danrphotos.com
Zone Info
Records for danrphotos.com
All Records
Name
Type
Data
danrphotos.com NS danr.DRPI.
danrphotos.com NS ns1.oaktree.NET.
danrphotos.com SOA danr.DRPI., Administrator.DRPI.
danrphotos A 208.150.70.210
Ready

FIGURE: 3

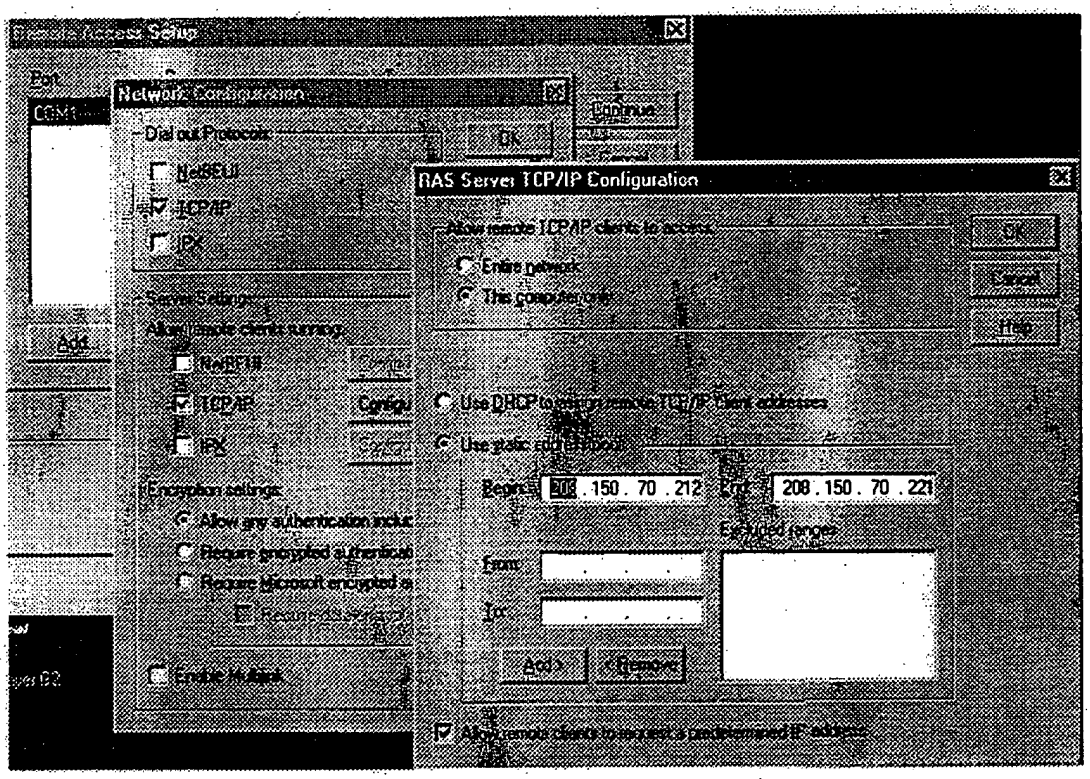
Network Configuration
Dial out Protocols:
NetBEUI
TCP/IP
IPX
OK
Continue
Add...
Configu...
RAS Server TCP/IP Configuration
Allow remote TCP/IP clients to access:
Entire network
This computer only
OK
Cancel
Help
Use DHCP to obtain remote TCP/IP client addresses
Use static address pool:
Begin: 208 . 150 . 70 . 212
End: 208 . 150 . 70 . 221
Excluded ranges:
From:
To:
Add >
< Remove
Allow remote clients to request a predetermined IP address

FIGURE: 4

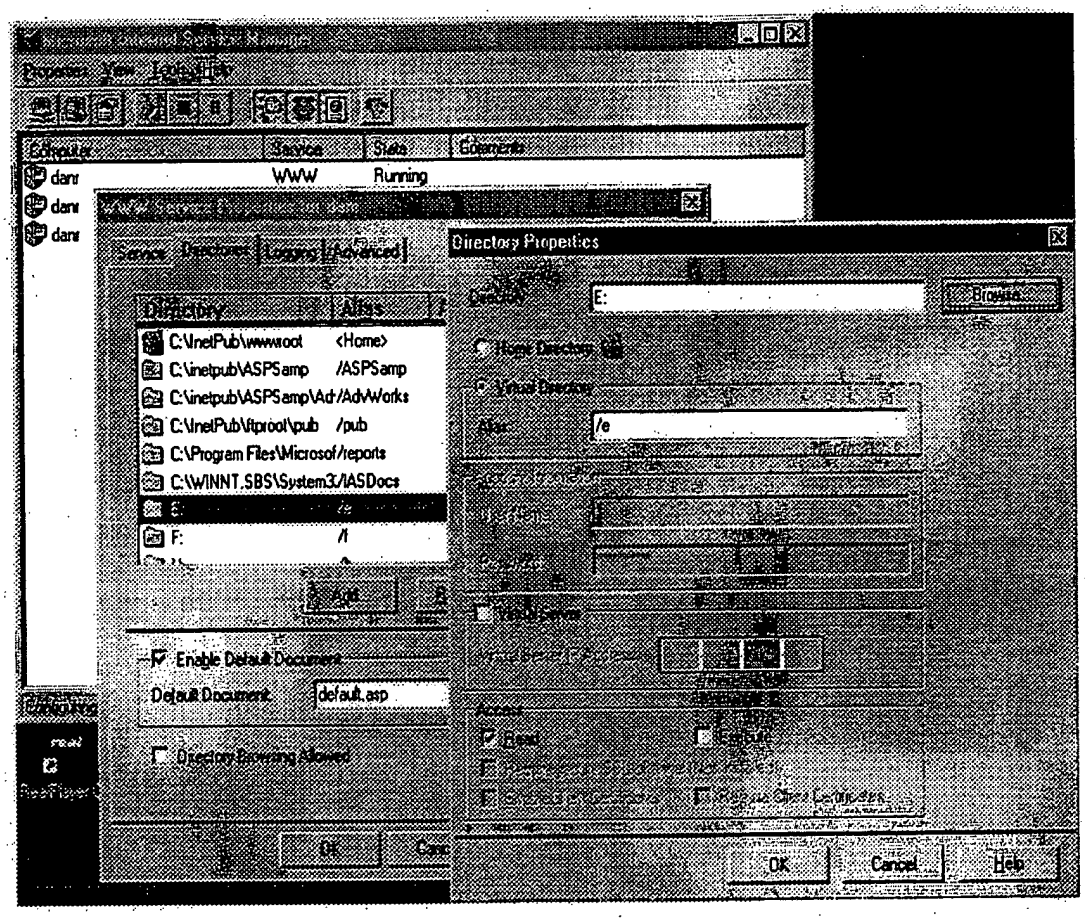
Directory Properties
C:\InetPub\wwwroot <Home>
C:\inetpub\ASPSamp /ASPSamp
C:\inetpub\ASPSamp\Ad /AdvWorks
C:\InetPub\ftproot\pub /pub
C:\Program Files\Microsof/reports
C:\WINNT.SBS\System32\IASDocs
E: /
F: /
Add
Enable Default Document
Default Document default.asp
Directory Browsing Allowed
E:
/e
OK
Cancel
Help

FIGURE: 5

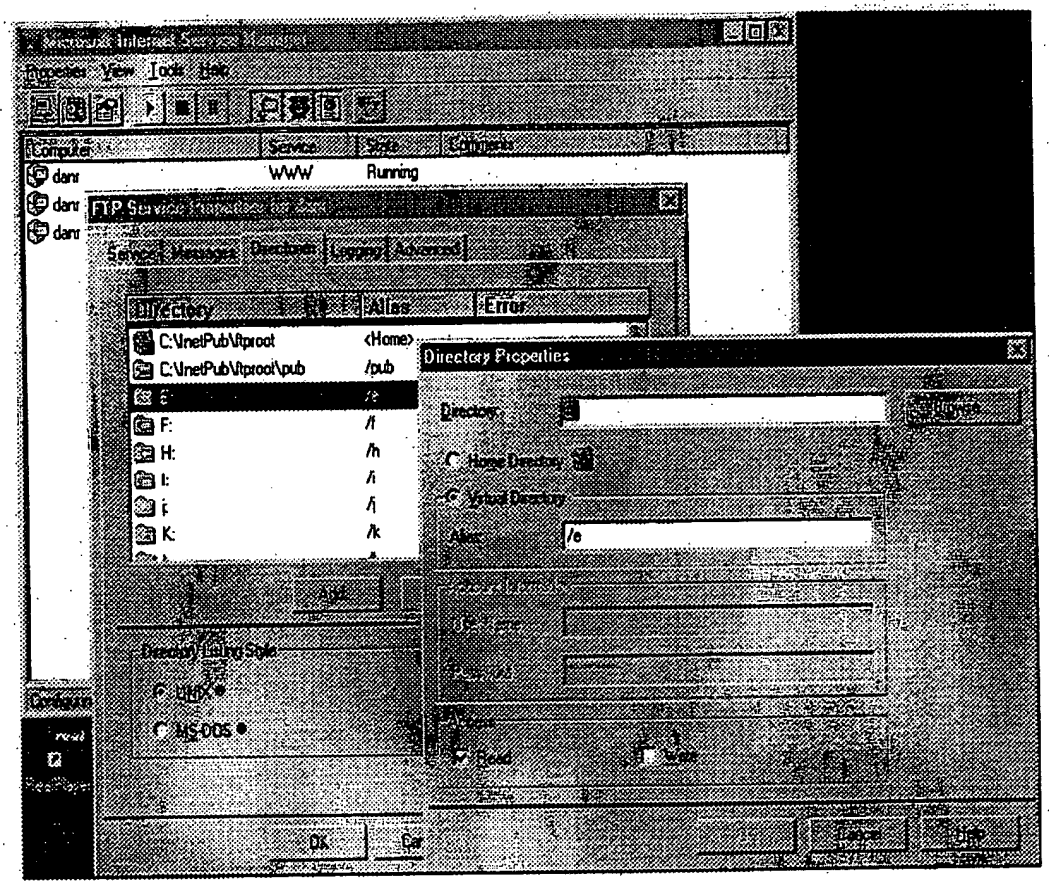
Computer
Service
State
Comments
dant
WWW
Running
Directory
Alias
Error
C:\InetPub\ftproot
<Home>
C:\InetPub\ftproot\pub
/pub
F:
/f
H:
/h
K:
/k
Directory Properties
Directory:
Home Directory
Virtual Directory
Alias:
/e
Directory Listing Style
UNIX
MS-DOS
Read
Write
OK

FIGURE: 6

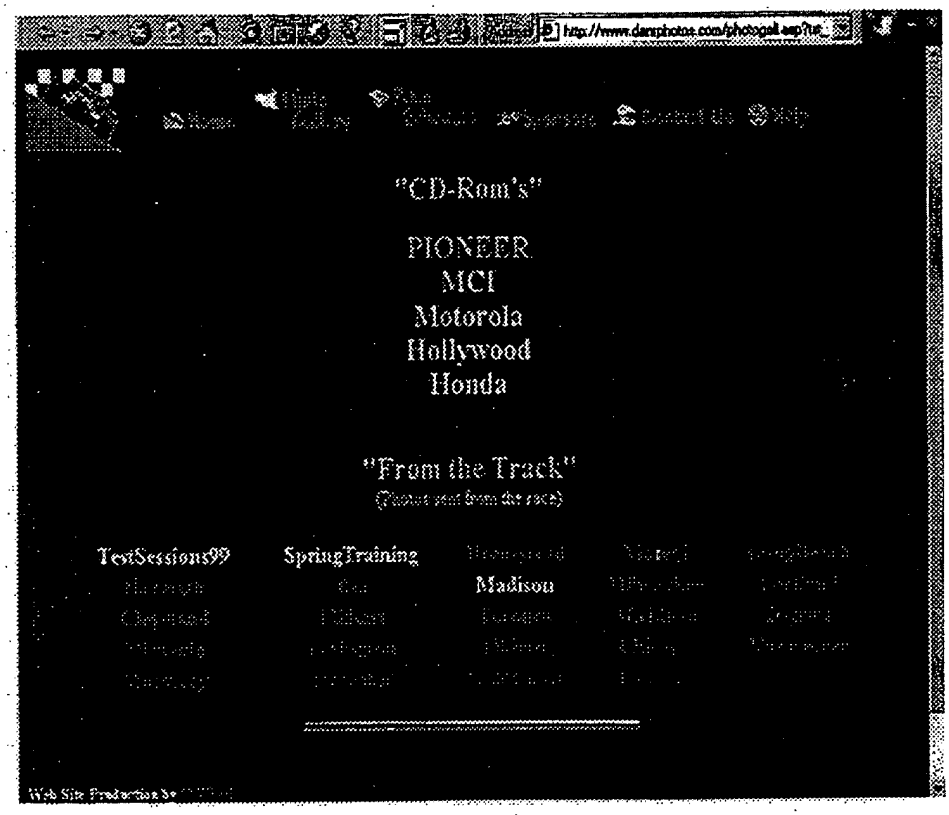
"CD-Rom's"
PIONEER
MCI
Motorola
Hollywood
Honda
"From the Track"
TestSessions99
SpringTraining
Madison

FIGURE: 7

FIGURE: 8

FIGURE:9

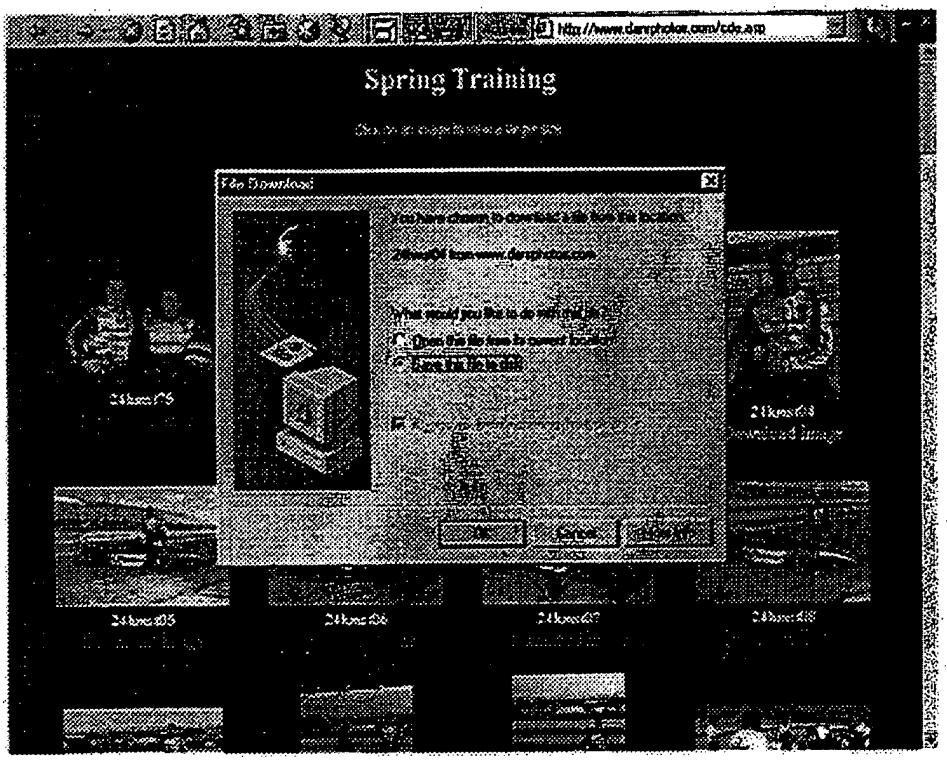

FIGURE: 10

FTP directory /pub/TestSessions99 at danrphotos.com

Welcome to Dan R. Photos

Up to higher level directory

02/01/99 08:06PM	Directory	deFerran
03/09/99 04:44PM	Directory	DellaPenna
01/23/99 01:53AM	Directory	Hollywood
02/09/99 04:49AM	Directory	Honda
01/23/99 01:53AM	Directory	IndyLights
02/01/99 08:44PM	Directory	MCI-Pioneer
01/23/99 01:53AM	Directory	Motorola
03/06/99 04:36PM	Directory	Other
02/01/99 08:20PM	Directory	Texaco-Kmart
02/09/99 04:44AM	Directory	Vasser
01/23/99 01:53AM	Directory	Vistaon

FIGURE: 11

FTP directory /pub/TestSessions99/MCI-Pioneer/ at danrphotos.com

Up to higher level directory

01/28/99 02:17AM	203,768	24seb01.jpg
01/28/99 02:19AM	234,242	24seb02.jpg
01/28/99 02:20AM	233,691	24seb03.jpg
01/28/99 02:22AM	216,722	24seb04.jpg
01/28/99 02:23AM	244,427	24seb05.jpg
01/28/99 03:45AM	240,536	24seb06.jpg
01/28/99 03:48AM	363,328	24seb07.jpg
01/28/99 03:50AM	305,805	24seb08.jpg
01/28/99 03:51AM	243,148	24seb09.jpg
01/28/99 03:53AM	293,762	24seb10.jpg
01/29/99 02:13AM	403,514	24SEB11.JPG
01/29/99 02:16AM	485,553	24SEB12.JPG
01/29/99 02:17AM	276,846	24SEB13.JPG
01/29/99 02:19AM	278,960	24SEB14.JPG
01/29/99 02:21AM	276,020	24SEB15.JPG
01/29/99 02:22AM	296,780	24SEB16.JPG
01/29/99 02:25AM	426,141	24SEB17.JPG
01/29/99 02:26AM	271,244	24SEB18.JPG
01/29/99 02:28AM	299,165	24SEB19.JPG
01/29/99 02:30AM	285,678	24SEB20.JPG
01/29/99 02:31AM	295,810	24SEB21.JPG
01/29/99 02:33AM	338,137	24SEB22.JPG
01/29/99 02:35AM	249,245	24SEB23.JPG
01/29/99 02:38AM	457,144	24SEB24.JPG
01/29/99 02:39AM	241,558	24SEB25.JPG
01/29/99 02:41AM	327,337	24SEB26.JPG
01/29/99 02:43AM	278,757	24SEB27.JPG
02/01/99 08:24PM	190,996	24seb28.jpg
02/01/99 08:26PM	230,256	24seb29.jpg

FIGURE: 12

FIGURE: 13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/07023

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 13/00
US CL :709/201

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 709/200, 201, 203, 232, 250

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IEEE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

STN, WEST
Search terms : distributing, downloading, transferring, picture, photo, album, image, Web, Internet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 6,035,323 A (NARAYEN ET AL.) 07 MARCH 2000, Title, Abstract, Figs. 2 and 4-14E, Col. 2 Lines 34-60, Col. 4 Line 26 - Col. 5 Line 26, Col. 6 Line 28 - Col. 8 Line 6.	1-2
Y,E	US 6,058,428 A (WANG ET AL.) 02 MAY 2000, Title, Abstract, Figs. 3-5B, Col. 5 Line 1 - Col. 6 Line 42.	1-2
Y,P	US 6,018,774 A (MAYLE ET AL.) 25 JANUARY 2000, Figs. 1 and 10-17, Col. 2 Line 29 - Col. 3 Line 10.	1-2
A	US 5,706,502 A (FOLEY ET AL.) 06 JANUARY 1998, Title, Abstract.	1-2
A	US 5,760,917 A (SHERIDAN) 02 JUNE 1998,Title, Abstract.	1-2

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 12 MAY 2000	Date of mailing of the international search report 03 AUG 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer AHMAD MATAR Telephone No. (703) 305-4731

Form PCT/ISA/210 (second sheet) (July 1998)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/07023

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	CORCORAN ET AL. "Internet Enabled Digital Photography," AUGUST 1999, IEEE Transactions on Comsumer Electronics, Vol. 45, No. 3, Whole Document.	1-2